# MONTANA BOARD OF MILK CONTROL MARKET ADMINISTRATION & INDUSTRY REPORT

FISCAL YEAR 2015 ENDED JUNE 30, 2015

**OCTOBER 2015** 

MONTANA DEPARTMENT OF LIVESTOCK
MILK CONTROL BUREAU

**CHAD LEE & MARK CURTIS** 

### **MONTANA BOARD OF MILK CONTROL**

### **MARKET ADMINISTRATION & INDUSTRY REPORT**

### FISCAL YEAR 2015 ENDED JUNE 30, 2015

### **TABLE OF CONTENTS**

EXECUTIVE SUMMARY	1
MILK MARKET ADMINISTRATION	
ESTIMATE OF MONTANA DAIRY CONSUMPTION	10
MINIMUM PRODUCER PRICES	14
MONTANA MILK PRODUCTION	21
MILK IMPORTS / EXPORTS	24
MONTANA POOL MARKETING SYSTEM	26
APPENDIX A – BOARD OF MILK CONTROL & RELATIONSHIP WITH MONTANA DEPARTMENT OF LIVESTOCK	43
APPENDIX B - REFERENCE PRICES USED FOR CALCULATION OF MINIMUM PRICES	44

### **EXECUTIVE SUMMARY**

The purpose of the Milk Control Bureau collecting and reporting information on Montana's milk industry is to provide insights and objective quantitative information to the Board of Milk Control to assist it in monitoring and understanding the industry to support policy development and deliberations.

The Milk Control Act provides powers to the Board of Milk Control to supervise, regulate, and control the milk industry. The act requires the Montana Department of Livestock to provide staff to assist in investigating matters, bring proceedings to enforce orders of the board, and assist in technical, enforcement, and regulatory activities.

The Milk Control Act includes a number of specific provisions enacted to support policy goals. Among these are

- mandatory licensing of businesses that produce and distribute milk in Montana;
- subjecting milk sold in Montana to assessments to fund the administration and enforcement of the act;
- establishment of minimum prices to be paid for raw milk according to how the milk is utilized, referencing federal milk classifications;
- authorization of the establishment of a quota supply control system and a statewide pooling market system;
- authority to govern fair trade practices, setting forth four specific trade practice prohibitions;
- expression of legislative intent that milk produced outside of state is subject to the Milk Control Act the instant that the milk is within the state and becomes subject to regulation by the state; and
- statement that the act does not supersede or interfere with federal law regulating interstate commerce.

Significant activity transpired for the Board of Milk Control, the Producer Committee, and the Milk Control Bureau in fiscal year 2015. The Board of Milk Control and the Producer Committee each met three times and conducted substantive meetings. The Board of Milk Control amended administrative rules to change administrative assessment rates. The Board of Milk Control voted to make the recording of its May 21, 2015 meeting and future meetings the form of its official minutes. Meeting recordings, associated time-stamp documents, and written minutes from prior meetings are posted on the bureau's website for download. The Milk Control Bureau enhanced monthly reports of price announcements and monthly producer pooling reports. The bureau designed a spreadsheet that estimates monthly quota prices in advance of pooling, which it posts on its website on a monthly basis. The bureau also made major improvements in data management and website content. Senator Taylor Brown introduced Senate Bill 183 in the 2015 Legislative Session; the bill was passed by the legislature and signed into law by the governor. Senate Bill 183 changes assessment reporting and payment frequency and due dates; eliminates automatic revocation of licenses triggered by late payment of assessments; authorizes the Board of Milk

Control to revoke licenses for failure to pay assessments, following due process and a hearing; and requires payment of delinquency fees when reinstating licenses revoked due to late payment of assessments.

The majority of milk produced in Montana is utilized as fluid milk consumed in Montana. In fiscal year 2015, Montanans consumed an estimated 21 million gallons of fluid milk, 86% of which originated from Montana bottling plants using milk supplied by Montana dairy farmers. The next largest use of Montana-origin milk is ice cream and ice cream mix. Montanans consumed an estimated 3.5 million gallons of ice cream type products, 27% of which was manufactured by Montana plants. Approximately 6% of Class II fluid products (half and half, cream, and creamers) consumed by Montanans originated from Montana plants. Montana plants account for only small percentages of all other dairy products consumed by Montanans.

In fiscal year 2015, Montana dairies produced nearly 298 million pounds of milk, the highest level of production since before 2000. Montana dairies produced 294 million pounds of milk in 2000. Montana milk production since 2000 has ranged from 276 million to 298 million pounds per year, averaging roughly 288 million pounds per year. Stable production has occurred despite a significant decline in the number of dairies (from 144 licensed dairies in fiscal year 2000 to 67 licensed dairies in fiscal year 2016) and a modest decline in the size of the milking herd (from 13,216 cows in fiscal year 2000 to 11,606 cows in fiscal year 2015). The average number of cows being milked per dairy has increased from 92 cows per dairy in fiscal year 2000 to 173 cows per dairy in fiscal year 2015. Production may decline in fiscal year 2016 because five dairies closed between May 2015 and September 2015, with several selling cows to out-of-state buyers.

Montana exported over 103 million pounds of packaged fluid milk products (compared to imports of nearly 40 million pounds of packaged fluid products) and exported nearly 30 million pounds of bulk raw milk (compared to imports of 18 million pounds of bulk raw milk). A provision in the Milk Control Act (81-23-302(10), MCA) specifies that distributors with processing facilities in the state shall "whenever possible, purchase milk from Montana producers for the processing of products to be sold in this state if milk is available from Montana producers at the price set by the board." The bulk milk imports are primarily attributed to Meadow Gold – Billings purchasing milk from Wyoming producers, processing the milk, and distributing it to the Wyoming market.

Montana's pool marketing system allows producers to receive milk prices based on the overall utilization of pool milk received by Montana's pool handlers. In fiscal year 2015, 66 pool dairies produced and delivered milk with an average butterfat content of 3.73% to four pool handlers, receiving nearly \$58 million at a weighted average price of \$19.93 per hundredweight (cwt). While pool production has been stable since 2000, the value of production has increased and directly reflects milk prices. Milk prices have followed the path of other commodities (such as feedstuffs) during the time period, increasing dramatically in 2007 and plunging in 2009 before recovering to price levels similar to the 2007 – 2008 time period. The 8.5% decline of the weighted average price of pool milk in fiscal year 2015 relative to fiscal year 2014 does not reflect the degree of market volatility experienced. After months of near-record high prices (with quota prices mostly over \$22/cwt through December 2014), a decline of roughly 30% occurred, primarily in a four-month period (with quota prices in the \$15/cwt - \$16/cwt range from February through June 2015). The decline in milk prices lagged behind declines of most other agricultural commodities. The Milk

Control Bureau estimates that the weighted average pool price for fiscal year 2016 may be in the range of \$15/cwt - \$16/cwt based on announced prices in the first quarter of fiscal year 2016 and market outlooks in industry publications.

The value of pool milk is determined by production and utilization factors and factors related to the sale of surplus milk (milk in excess of pool handler's Montana Class I and Class II needs).

### **Utilization Factors**

Two major elements of utilization factors are (1) minimum prices for each class of milk and (2) the percentage of butterfat and skim (the portion of milk that is not butterfat) utilized in each class of milk. Minimum prices are highest for milk utilized as Montana Class I, which accounted for 51.4% of pool production in fiscal year 2015. The Montana Class I utilization percentage in 2000 was 70.4% of pool production in 2000. The decline of Montana Class I utilization corresponds to the decrease in U.S. per capita consumption of fluid milk from 196 pounds per year in 2000 to 159 pounds per year in 2014. Other factors in the decline of the Montana Class I utilization percentage may include increased availability and possibly market share of ultrapasteurized products (such as organic milk, lactose-free milk, and other specialty or branded products) that are imported into the state and changes in food distribution systems that have led to an increase in out-of-state distributors supplying Montana stores. Because Montana dairy processors do not utilize a large percentage of pool milk for production of Class II and Class III products, the increased Montana Class III utilization of pool milk is occurring through exports of surplus milk.

### Surplus Sales Factors

Surplus sale factors allow for adjustments to the value of pool milk that reflect market and production dynamics. Major surplus sales factors include the volume of surplus milk that is sold in packaged form and bulk form, the margin by which the value received for each exceeds the Montana Class III value, and freight costs for sales of bulk surplus milk to out-of-state processors and other pool handlers. The majority of surplus milk is sold as packaged milk to out-of-state markets. This is beneficial to the pool because freight costs are not charged to the pool for sales of packaged surplus milk and because there is virtually always a gain paid to the pool for the margin that the reported value exceeds its Montana Class III value. For surplus sales of bulk milk to out-of-state markets, pool handlers pay the pool the difference between the value received and the Montana Class III value of that milk after subtracting hauling charges. If this calculation is negative, the pool "owes" pool handlers for such sales, which was the case for the majority of bulk surplus milk sales to out-of-state markets in fiscal year 2015. In each month of fiscal year 2015, the net return on combined bulk and packaged surplus milk sales increased the value of pool milk.

### MILK MARKET ADMINISTRATION

### MILK CONTROL ACT PRIMER

### **Policy Purpose**

The Milk Control Act (Montana Codes Annotated Title 81, Chapter 23) provides for the regulation of the milk market in Montana. The act establishes that regulation of milk is in the public interest because milk is a necessary food article; adequate supply is vital to the public; and health regulations do not provide for adequate supply. The act specifies that it is a policy of the state to stabilize the marketing of milk and promote, foster, and encourage intelligent production and orderly marketing of milk dairy products; elimination of speculation and waste; and making the distribution between producer and consumer as direct as can be efficiently and economically done.

The Milk Control Act's policy statement includes, but is not limited to, the following summarized statements.

- Trade practices in the dairy value chain can threaten the health and welfare of the state's citizens and undermine the sanitary condition and purity of milk.
- Past experience shows that when regulation does not provide for an orderly and profitable marketing of milk, credit status of producers and distributors is adversely affected, resulting in broader economic damage.
- The unique nature of milk lends itself to regulation. Milk is a highly perishable commodity that is easily contaminated. It cannot be stored for a great length of time and must be produced and distributed fresh daily.
- The supply of milk is variable but must be produced on a uniform and even basis and yet
  accommodate fluctuating demand; therefore a surplus of milk must be available to
  guarantee adequate supply to the public. Maintaining this surplus can be expensive;
  unless regulated the unavoidable surplus can undermine the milk industry by causing
  producers to relax their diligence in complying with health and sanitary provisions.
- The natural law of supply and demand has been found inadequate to protect the industry. In the past, the adequacy of supply has been threatened by market conditions and trade practices within the industry.
- The supply and quality of milk are affected negatively unless the producers are guaranteed and ensured a reasonable profit on milk.

### **Elements of the Milk Control Act**

The act describes its policy purpose and authorizes necessary regulatory infrastructure. The act provides powers to the Board of Milk Control to supervise, regulate, and control the milk industry. The act requires the Montana Department of Livestock to provide staff to board to assist in investigating matters; bring proceedings to enforce orders of the board; and assist in technical, enforcement, and regulatory activities.

The act includes a number of specific provisions. Among these are the following.

- mandatory licensing of businesses that produce and distribute milk in Montana;
- subjecting milk sold in Montana to assessments to fund the administration and enforcement of the act;
- establishment of minimum prices to be paid for raw milk according to how the milk is utilized, referencing federal milk classifications;
- authorization of the establishment of a quota supply control system and a statewide pooling market system where producers are paid uniformly;
- authority to govern fair trade practices, setting forth four specific trade practice
  prohibitions against secret rebates and discounts; gifts to secure fluid milk and cream
  business; offering special prices to customers not available to all customers who
  purchase under like terms/conditions; and payment (by a distributor to a producer) of a
  price lower than applicable producer price;
- expression of legislative intent that milk produced outside of state is subject to the Milk Control Act the instant that the milk is within the state and becomes subject to regulation by the state; and
- statement that the act does not supersede or interfere with federal law regulating interstate commerce.

### **BOARD OF MILK CONTROL – ACTIVITY IN FISCAL YEAR 2015**

In fiscal year 2015, the Board of Milk Control met in Helena three times (December, 18, 2014; January 15, 2015; and May 21, 2015). One member, Ariel Overstreet-Adkins, resigned on January 5, 2015. A replacement was not appointed as of September 3, 2015. Two board member's terms expired (W. Scott Mitchell and Jerry A. Weissman). These two board members continue to serve on the board until reappointed or until new appointments are made by the governor. Appendix A provides additional information about the Board of Milk Control, its interaction with the Montana Department of Livestock, and differentiation of the roles of the department's Milk Control Bureau and the Milk & Egg Bureau.

Montana	Board	of Milk	Control -	<ul> <li>Members</li> </ul>

Name	<b>Board Position</b>	Residence	Term
W. Scott Mitchell	Chair	Billings	1/2011 – 1/2015
Jerry A. Weissman	Vice-Chair	Great Falls	1/2011 – 1/2015
Jim Parker	Member	Fairfield	1/2013 – 1/2017
Erik Somerfeld	Member	Power	1/2013 – 1/2017
Ariel Overstreet-Adkins	Member (resigned January 5, 2015)	Helena	1/2013 – 1/2017

The Board of Milk Control can be reached through the contact information listed below.

Milk Control Bureau 1225 8<sup>th</sup> Ave. P.O. Box 202003 Helena, MT 59620-2003 (406) 444-2875 or LivMilkControl@mt.gov

### PRODUCER COMMITTEE – ACTIVITY IN FISCAL YEAR 2015

Administrative rule established the Producer Committee. The committee deliberates over transfers of quota and is authorized by rule to take over the responsibility from pool handlers of selling surplus milk (milk produced in excess of Montana processors' Class I and Class II milk needs). Pool handlers may also relinquish the responsibility to market surplus milk to the Producer Committee.

In fiscal year 2015, the Producer Committee met three times (July, 14, 2014; October 23, 2014; and May 4, 2015) to consider two quota transfers requests and discuss the sale of surplus. The October 23, 2014 meeting was held in Helena. All other meetings were held via conference call. The committee's ten members are listed below. Members represent pool producers supplying Montana's pool handlers. The number of representatives associated with each plant is proportionate to the milk receipts of each plant, with at least one member representing the producers associated with a given plant. In October 2014, Greg Braaksma resigned and was replaced by Loren Dyk of Manhattan.

Fiscal V	par 2015	Producer	Committee	Memhers
FISCAL I	cai zvio	FIUUULEI	COMMITTEE	MEHINELS

Producer Name	Committee Position	Associated Plant	Dairy Name
David Miller	Chair	Montana Correctional Enterprises	Montana Correctional Enterprises Dairy
Sam Hofer	Vice-Chair	Meadow Gold – Great Falls	Surprise Creek Colony Dairy
Andrew Wipf	Secretary	Meadow Gold – Great Falls	Big Sky Colony
Greg Braaksma	Member (resigned in October 2014)	Darigold	B-3 Dairy
Loren Dyk	Member (beginning October 2014)	Darigold	Amsterdam Holsteins Dairy
Mike J. Hofer	Member	Meadow Gold – Great Falls	Glendale Colony Dairy
Tim Huls	Member	Darigold	Huls Dairy
Daron Kamerman	Member	Darigold	Cedar K Dairy
Nelson Kamerman	Member	Darigold	Dairyland Farms
Larry Klompien	Member	Darigold	3 Hangin C Dairy
Jeremy Leep	Member	Darigold	Leep Dairy
Walter Wipf	Member	Meadow Gold – Billings	Martinsdale Colony Dairy
Ruben Wurz	Member	Meadow Gold – Great Falls	Big Stone Colony Dairy

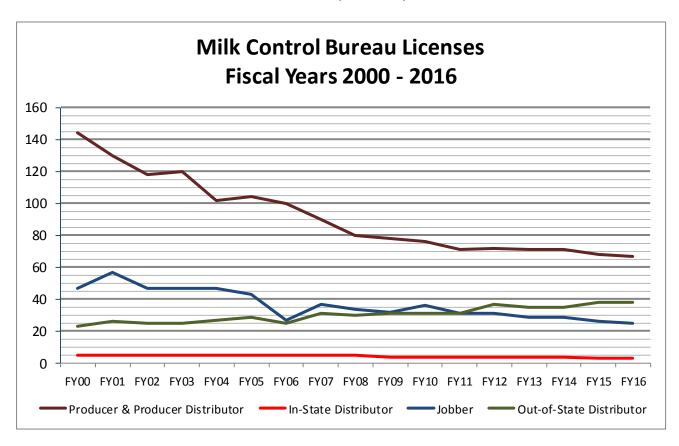
### LICENSING SUMMARY

The Milk Control Bureau issues licenses to producers, producer-distributors, distributors, and jobbers (a class of distributors that purchase and resell milk). The table below shows the number of licenses issued in fiscal year 2015 for each type of business. Licenses are issued on an annual fiscal year basis (July 1 – June 30). By statute, the license fee is two dollars per license, and the fees are deposited into the state general fund.

### **Licenses Issued for Fiscal Year 2015**

License Type	Number of Licenses
Producer	65
Producer-Distributor	3
In-State Distributor	3
Out-of-State Distributor	38
Jobber	26

The following chart shows the number of licenses issued for each license type for fiscal year 2000 through fiscal year 2016, combining the number of producers and producer-distributors. The chart reflects consolidation affecting the milk industry with a significant decline of licensed producers, a decrease in in-state distributors, a decline in the number of jobbers, and an increase in the number of out-of-state distributors. Starting in fiscal year 2015, Montana Correctional Enterprises was licensed as a producer-distributor instead of an in-state distributor. Had the business been licensed as a producer-distributor in prior years, the number of in-state distributor licenses would have been reduced by one. The change of significance in the number of in-state distributors occurred after fiscal year 2008, when Meadow Gold did not renew its in-state distributor license for its Kalispell facility.



### ADMINISTRATIVE ASSESSMENTS AND COLLECTION

Administrative assessments are levied on sales of milk by Montana producers, producer-distributors, in-state distributors, and out-of-state distributors to secure funds to administer and enforce the Milk Control Act. The assessments are classified as special revenue and are the sole source of funding for the Board of Milk Control and the Milk Control Bureau.

Fiscal Year 2015 Assessment Rates By License Type

License Type FY2015 Assessment F	
Producer	\$0.025/cwt
Distributor (In-State)	\$0.025/cwt
Distributor (Out-of-State)	\$0.06/cwt
Producer-Distributor	\$0.06/cwt

### Assessment Rates & Collection – Changes for Fiscal Year 2016

Effective for fiscal year 2016, there will be several changes affecting administrative assessments. The Board of Milk Control amended administrative rules to increase assessment rates to \$0.04/cwt for producers and in-state distributors and to \$0.08/cwt for producer-distributors and out-of-state distributors. The rate assessment increase begins with July 2015 milk sales. Additionally, the rule change sets a minimum assessment rate of five dollars per month, with no assessment if the assessed amount is less. Senator Taylor Brown introduced Senate Bill 183 in the 2015 Legislative Session; the bill was passed by the legislature and signed into law by the governor. Senate Bill 183 amends 81-23-202(5) and (6), MCA, effective July 1, 2015. The amendments change the frequency of assessment reporting and payment from quarterly to monthly and change the related due date from the 15<sup>th</sup> day following the end of a quarter to the 25<sup>th</sup> day following the end of the month. Additionally, Senate Bill 183 eliminates automatic revocation of licenses triggered by delinquent payment of assessments and authorizes the Board of Milk Control to revoke licenses for failure to pay assessments following due process and a hearing. It also requires payment of delinquency fees when reinstating licenses revoked due to late payment of assessments. Delinquency fees are to be established by rule.

### **SELECTED MILK CONTROL BUREAU HIGHLIGHTS**

The Milk Control Bureau became fully staffed in July 2014, and in fiscal year 2015 made major improvements to its data management systems and increased availability of information on its website. The following lists selected highlights for the Milk Control Bureau for fiscal year 2015.

- Monthly price announcements more clearly show how Montana Class I, II, and III prices are
  calculated and provide charts showing each class's milk, skim, and butterfat prices for a 13month period. Additionally, quota prices for prior months are shown to provide additional
  information to stakeholders.
- Reports distributed to producers following monthly pooling include a new report that clearly
  details how the month's quota and excess prices were determined. The producer's pooling
  reports were also improved to be more concise and understandable and provide information
  about surplus milk sales and milk imports and exports.
- The bureau designed a spreadsheet that estimates quota prices for months in which prices have been announced but which have not been pooled. Since June 2015, the bureau has posted these spreadsheets on its website on a monthly basis. The spreadsheets were created to help dairies estimate revenue. As a side benefit, the spreadsheets may help producers and stakeholders gain insights on the major variables impacting quota prices. The spreadsheets were developed in part as a response to a situation in which producers contacted the bureau after quota prices for November 2014 (calculated in December) decreased more than

- producers anticipated, despite the significant decline in November prices that were announced in October.
- The Board of Milk Control voted to make the recording of its May 21, 2015 meeting the form
  of its official minutes. The bureau prepared the required time-stamp document to
  accompany the recording and posted the recording and time stamp document to the bureau
  website, along with written minutes from Board of Milk Control meetings and Producer
  Committee meetings that occurred after December 2013.

### **ESTIMATE OF MONTANA DAIRY CONSUMPTION**

### **DISCUSSION OF ESTIMATE METHOD & LIMITATION**

The estimated dairy consumption for Montana is based on combining information from assessments reports submitted by pool handlers, producer-distributors, and out-of-state distributors. The forms gather different levels of information from each class of licensed distributor. Information from pool handlers and producer-distributors focuses on the weight of milk utilized. Information gathered from out-of-state distributors focuses on product volume or weight to which milk equivalent factors are applied to determine milk equivalent weight subject to administrative assessments. Because different sources of information are being combined, the information should be viewed as being an estimate. In particular, Class III products (cream cheese, cheese, and butter) may be understated.

Pool handlers (Meadow Gold, Darigold, and Montana Correctional Enterprises) report how milk received is utilized in monthly reports submitted for pooling calculations and report imports of packaged milk products. Pool handlers sell some bulk milk to other dairy manufacturers located in Montana. The utilization of this milk is attributed to the class of utilization thought to account for the majority of the manufacturer's utilization.

Producer-distributors report total milk produced and sold in reports submitted with payment of administrative assessments. In fiscal year 2015, producer-distributor reports did not show how milk was utilized. In estimating dairy product consumption, amounts are attributed to the class of utilization thought to account for the majority of utilization.

Out-of-state distributors report imports of packaged milk products. In fiscal year 2015, the bureau followed past practice and did not assess imports of Class III products (butter, cheese, and cream cheese). Out-of-state distributors are required to report Class III imports. Because no assessment is levied on Class III imports, it is possible that imports were not reported accurately by all out-of-state distributors. Therefore, the estimate of consumption of Class III products may be understated.

### **SUMMARY**

The following tables show estimates of dairy consumption by Montanans in terms of product consumed (gallons or pounds of product) and in terms of milk equivalent (estimated pounds of milk utilized to manufacture the products consumed). The milk equivalent weight of imported dairy products is calculated by multiplying the unit of product imported by the milk equivalent factors shown in the table labeled "Dairy Product Milk Equivalent Factors Used by the Milk Control Bureau".

The majority of milk produced in Montana is utilized for fluid milk consumed in Montana. In fiscal year 2015, Montanans consumed an estimated 21 million gallons of fluid milk, 86% of which originated from Montana bottling plants using milk supplied by Montana dairy farmers.

The next largest use of Montana-origin milk is for ice cream and ice cream mix. Montanans consumed an estimated 3.5 million gallons of ice cream type products, 27% of which was manufactured by Montana plants. Approximately 6% of Class II fluid products (half and half, cream, and creamers) consumed by Montanans originated from Montana plants. Montana plants account for only small percentages of all other dairy products consumed by Montanans. Production of these products outside of Montana is largely a function of industry dynamics that relate to scales of efficiency in manufacturing and placement of manufacturing facilities near areas with greater population or areas with larger supplies of milk.

FISCAL YEAR 2015: MONTANA ESTIMATED DAIRY CONSUMPTION (BY PRODUCT VOLUME OR WEIGHT)

FISCAL YEAR 2015: IVIONTA	Products	% of	Products		,
	from	Product	from Out-	% of Product	Total
	Montana	Total from	of-State	Total from	Consumption
Class / Type / Product	Plants	Montana	Plants	Out-of-State	Estimate
CLASS I (gallons) White & Flavored Milk Buttermilk Eggnog	18,144,772	86.02%	2,948,097 83,561 36,197	13.98% 100.00% 100.00%	21,092,869 83,561 36,197
CLASS II					
Fluid/Whip (gallons) Half and Half Whipping Cream Creamers Aerosol Whip	53,825 55,312	7.16% 11.17%	698,371 439,833 397,815 96,191	92.84% 88.83% 100.00% 100.00%	752,196 495,145 397,815 96,191
Uncultured (gallons) Ice Cream / Mix / Ice Milk / Novelties	995,123	27.22%	2,660,499	72.78%	3,655,622
Frozen Yogurt / Mix Cream for Candy Products	12,044	100.00%	188,275	100.00%	188,275 12,044
Cultured (pounds) Cottage Cheese Sour Cream & Dressings	32,562	1.17%	2,741,582 5,113,276	98.83% 100.00%	2,774,144 5,113,276
Yogurt/Kefir	62,136	0.46%	13,374,094	99.54%	13,436,230
CLASS III (pounds) Cream Cheese Cheese Butter	15,015	0.09%	1,217,130 17,347,746 4,461,304	100.00% 99.91% 100.00%	1,217,130 17,362,761 4,461,304

DAIRY PRODUCT MILK EQUIVALENT FACTORS USED BY THE MILK CONTROL BUREAU

	Milk Equivalent	Milk Equivalent
	(lbs of milk to make	(lbs of milk to make 1
Product	1 lb of product)	gallon of product)
White Milk / Flavored Milk		8.60 - 8.63
Buttermilk		8.62
Egg Nog		8.58
Whipping Cream		8.35 – 8.37
Half and Half / Creamers		8.55
Aerosol Whip		8.48
Ice Cream		3.51
Ice Milk / Frozen Yogurt / Novelties		3.54
Ice Cream Mix		7.01
Yogurt Mix		7.08
Cottage Cheese	5.67	
Dry Curd	7.33	
Sour Cream / Dips / Dressings / Sour Half and Half	1	
Yogurt / Kefir	1	
Cream Cheese	1	
Cheese	10	
Butter	21.2	

The amount of milk used to manufacture different products varies. One pound of cheese requires ten pounds of milk because milk contains approximately 85% water, much of which is removed in the manufacturing process. Cows produce milk that generally has 3.5% - 4% butterfat content. Butter is approximately 85% butterfat. Therefore, it takes many pounds of milk (approximately 21 pounds) to manufacture one pound of butter. Because milk equivalent factors for cheese and butter are high, the total milk equivalent of Class III products consumed by Montanans exceeds the milk equivalent of Class I and Class II products consumed by Montanans.

FISCAL YEAR 2015: MONTANA ESTIMATED DAIRY CONSUMPTION – BY MILK EQUIVALENT WEIGHT

	Products from Products from Out-of- Total Consumption – BY MILK EQUIVALENT WE			
	Montana Plants	State Plants	Estimate	
Class / Type / Product	(lbs milk equivalent)	(lbs milk equivalent)	(lbs milk equivalent)	
CLASS I				
White & Flavored Milk	156,407,934	25,405,836	181,813,770	
Buttermilk		720,292	720,292	
Eggnog		<u>310,570</u>	<u>310,570</u>	
TOTAL CLASS I	156,407,934	26,436,698	182,844,632	
CLASS II				
Fluid/Whip				
Half and Half	460,206	5,971,069	6,431,275	
Whipping Cream	462,411	3,675,560	4,137,971	
Creamers		3,401,316	3,401,316	
Aerosol Whip		<u>815,701</u>	<u>815,701</u>	
Subtotal	922,617	13,863,646	14,786,263	
Uncultured				
Ice Cream / Mix / Ice Milk /				
Novelties	7,270,094	10,345,212	17,615,306	
Frozen Yogurt / Mix		1,190,958	1,190,958	
Candy Products	<u>100,691</u>		<u>100,691</u>	
Subtotal	7,370,785	11,536,170	18,906,955	
Cultured				
Cottage Cheese	184,624	15,553,945	15,738,569	
Sour Cream & Dressings		5,113,276	5,113,276	
Yogurt/Kefir	<u>62,136</u>	<u>13,374,094</u>	<u>13,436,230</u>	
Subtotal	246,760	34,041,315	34,288,075	
TOTAL CLASS II	8,540,162	59,441,131	67,681,293	
CI ACC III				
CLASS III		4 247 420	4 247 420	
Cream Cheese	150 140	1,217,130	1,217,130	
Cheese	150,148	172,100,119	172,250,267	
Butter		<u>94,579,642</u>	<u>94,579,642</u>	
TOTAL CLASS III	150,148	267,896,891	268,047,039	

### **MINIMUM PRODUCER PRICES**

### **CLASSIFIED PRICING**

To aid in the orderly marketing of milk, most jurisdictions in the United States, starting in the 1930's, established price regulation systems that set prices for milk purchased from dairies based upon how the buyer (a processor) utilizes the milk. Classified pricing systems have been adopted in a number of other western countries as well. Such systems help prevent situations in which producers are pitted against each other by processors to undercut prices, which can lead to a chaotic marketplace in which the supply and sanitary condition of milk becomes imperiled. Montana's milk classification system largely references USDA definitions (7 CFR, part 1000.40). Montana law allows the Board of Milk Control flexibility to modify milk classification to be different than federal definitions. In general, Class I utilization includes fluid milk products, buttermilk, and eggnog. Class II utilization includes fluid cream products, ice cream type products, cottage cheese, sour cream and yogurt. Class III utilization includes cheese and cream cheese. The USDA definition of Class IV utilization includes butter and dried milk.

In Montana, Class III utilization also includes all other utilizations of milk not classified as Class I or II. This generally includes butter, dried milk, bulk milk inventory, bulk cream sales, dumped milk, shrinkage and exports to out-of-state markets of bulk milk and packaged milk products. Dried milk products are not produced in Montana. Shrinkage is a term that describes milk received that is not accounted for by utilization or inventory. Shrink is unavoidable and typically is caused by processing losses and incidental waste. In Montana, shrinkage in excess of two percent of producer receipts is accounted for as a Class I utilization.

### **PRICE FORMULAS**

The Milk Control Act requires that the Board of Milk Control establish formulas to calculate minimum prices to be paid for milk based upon classified utilization. The administrative rules that implement the classified pricing mandated by the Milk Control Act are established in ARM 32.24.301 and ARM 32.23.102(12).

### Montana Class I

Montana's Class I milk price formula adds a \$2.55/cwt differential to the USDA Federal Order Base Class I price. The Montana Class I butterfat price is the Federal Order Advanced Butterfat Pricing Factor plus \$0.0255/lb. The USDA Federal Milk Marketing Administration announces these prices in advance of the month of production. The federal announcement is generally made on the Wednesday following the first two full weeks of the month. The formulas used to calculate Montana Class I prices are shown in the following figure, using August 2015 as an example.

Calculation of Montana Class I Announced Prices for August 2015	
ARM 32.24.301(5): Federal Order Base Class I Price (\$/cwt)	\$16.28
ARM 32.24.301(5): Differential (\$/cwt)	\$2.55
CLASS I PRICE FOR MILK TESTING 3.5% BUTTERFAT (\$/CWT)	<u>\$18.83</u>
ARM 32.24.301(5): Federal Order Advanced Butterfat Pricing Factor (\$/lb)	\$2.1332
Differential: \$2.55/cwt / 100 lbs/cwt (\$/lb)	\$0.0255
CLASS I BUTTERFAT PRICE PER POUND (\$/LB)	<u>\$2.1587</u>

### Montana Class II & Class III

Montana's Class II and Class III milk prices are based on the last prices (market prices) reported prior to the 20<sup>th</sup> of the month in the National Dairy Market News Weekly Report published by USDA Agricultural Marketing Service. The report is generally published on the Friday of the second full week of each month. The administrative rules specify the use of the spray process nonfat dry milk solids price for the Central States area. The National Dairy Market News Weekly Report reports a low/high price range for nonfat dry milk; so an average is taken and used in the Montana Class II and Class III price formulas. The administrative rules specify the use of the Chicago area Grade AA butter price; this price is reported in the National Dairy Market News Weekly Report in a table labeled "CME Group Cash Trading". The formulas used to calculate Montana Class II and Class III prices are shown in the following figures, using August 2015 as an example.

Calculation of Montana Class II Announced Prices for August 2015		
ARM 32.24.301(6): Average spray process dry milk solids (USDA Central	\$0.8525	
Region Nonfat Dry Milk) (\$/lb))		
ARM 32.24.301(6): Freight Adjustment (\$/lb)	\$0.0125	
Subtotal (\$/lb)	\$0.8650	
ARM 32.24.301(6): multiplied by 8.2 (lbs nonfat dry solids per cwt milk)		\$7.0930
ARM 32.24.301(6): Last quote for Grade AA butter (Chicago Area Grade AA	\$1.8400	
Butter Price) (\$/lb		
ARM 32.24.301(6): less a differential of \$0.089	(\$0.0895)	
Subtotal (\$/lb)	\$1.7505	
ARM 32.24.301(6): multiplied by 4.2 (lbs butter per cwt milk)	_	\$7.3521
Nonfat Dry Solids Price Component + Butter Price Component (\$/cwt milk)		\$14.4451
ARM 32.24.301(6): Less Make Allowance of 8.5% (\$/cwt)		(\$1.2278)
CLASS II PRICE FOR MILK TESTING 3.5% BUTTERFAT (\$/CWT)		<u>\$13.22</u>

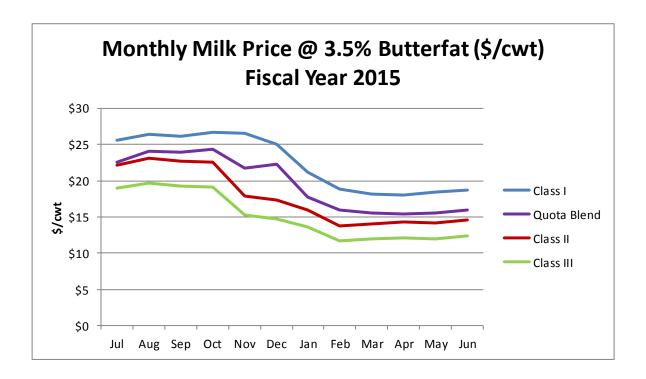
Calculation of Montana Class II Announced Prices for August 2015 - Continued		
\$1.8400	ARM 32.24.301(6): Last quote for Grade AA butter (Chicago Area Grade AA Butter	
	Price) (\$/lb)	
(\$0.0895)	ARM 32.24.301(6): less a differential of \$0.0895	
\$1.7505	Subtotal (\$/lb)	
\$0.1943	ARM 32.24.301(6): multiplied by 0.111	
\$0.195	ARM 32.24.301(6): rounded to the nearest \$0.005 (\$/0.1% butterfat content)	
	multiplied by 10 (\$/% butterfat content = \$/lb butterfat)	
<u>\$1.950</u>	CLASS II BUTTERFAT PRICE PER POUND (\$/LB)	

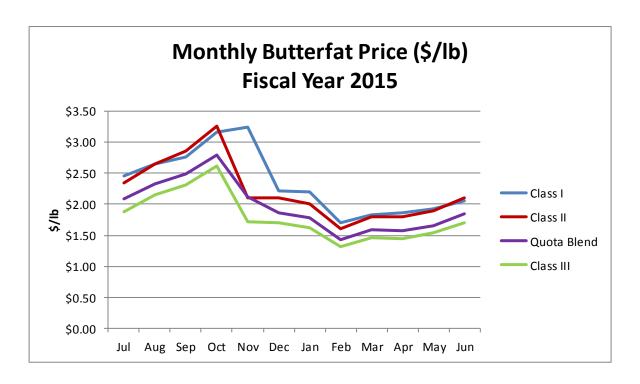
Calculation of Montana Class III Announced Prices for August 2015		
ARM 32.24.301(7): Last quote for Grade AA butter (Chicago Area Grade	\$1.8400	
AA Butter Price) (\$/lb)		
ARM 32.24.301(7): less a differential of \$0.0895	(\$0.0895)	
Subtotal (\$/lb)	\$1.7505	
ARM 32.24.301(7): Less 10%	(\$0.1751)	
Butter Price Component: CLASS III BUTTERFAT PRICE PER POUND	<u>\$1.5755</u>	
(\$/LB)		
	40.0=0=	
Average spray process dry milk solids (USDA Central Region Nonfat Dry	\$0.8525	
Milk) (\$/lb)	60.0425	
ARM 32.24.301(6): Freight Adjustment (\$/lb)	\$0.0125	
Subtotal (\$/lb)	\$0.8650	
ARM 32.24.301(7): multiplied by 8.2 (lbs nonfat dry solids per cwt milk)	\$7.0930	
ARM 32.24.301(7): Huntiplied by 8.2 (lbs florifactory solids per cwc filing)  ARM 32.24.301(7): less 17%	(\$1.2058)	
ARIVI 32.24.301(7). 1633 1770	\$5.8872	
Nonfat Dry Solids Price Component: CLASS III SKIM PRICE PER POUND	\$0.0589	
(\$/LB)	<b>40.03</b> 03	
(4) ==)		
Class III BF Price/lb x 3.5 lbs butterfat per cwt milk:		
VALUE OF CLASS III BUTTERFAT AT 3.5 LBS		\$5.5143
Class III Skim per lb x 96.5 lbs per cwt milk:		•
VALUE OF CLASS III SKIM MILK AT 96.5 LBS (\$)		\$5.6811
CLASS III PRICE PER CWT FOR MILK TESTING 3.5% BUTTERFAT (\$/CWT)		\$11.20

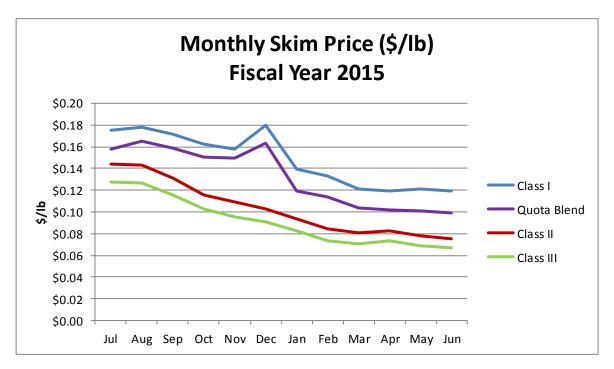
### **ANNOUNCED MINIMUM PRICES IN FISCAL YEAR 2015**

Cows often produce milk that has 3.5% - 4% butterfat. The dairy industry often uses a reference price for milk having 3.5% butterfat. One hundred pounds of milk (a hundredweight, abbreviated "cwt") with 3.5% butterfat consists of 3.5 pounds of butterfat and 96.5 pounds of "skim". Skim consists of water (over 90% of skim weight) and solids that are not fat (lactose, protein, and minerals). In Montana, an individual producer is paid on the actual butterfat and skim produced by the dairy's herd for each month of production.

The charts below show announced minimum prices for months in fiscal year 2015 (July 2014 – June 2015) along with the calculated quota price based on actual milk utilization. Prices for milk and butterfat were near or at historic highs in the first few months of fiscal year 2015 before declining steadily in November 2014 through February 2015. High prices were driven by strong U.S. domestic demand and international exports. Among the factors that drove international demand were strong demand in China and decreased production in New Zealand attributed to drought. Factors driving price declines include, but are not limited to, changes in U.S. exchange rates that made U.S. exports more expensive, decreases in demand from China, and increased milk supplies in the United States. Beginning in March 2015, milk prices leveled to a large degree. Appendix B provides information on the reference prices used to calculate Montana's announced minimum prices.

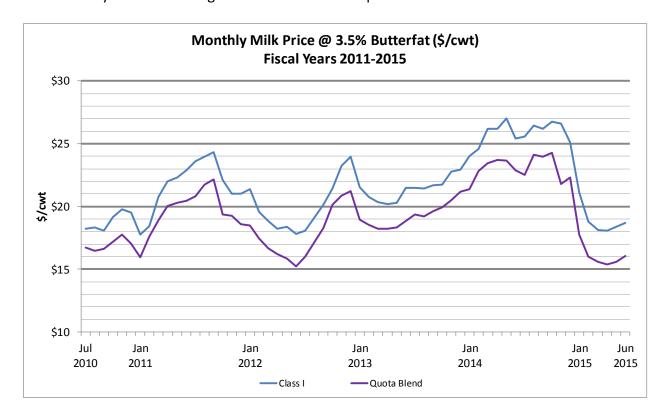


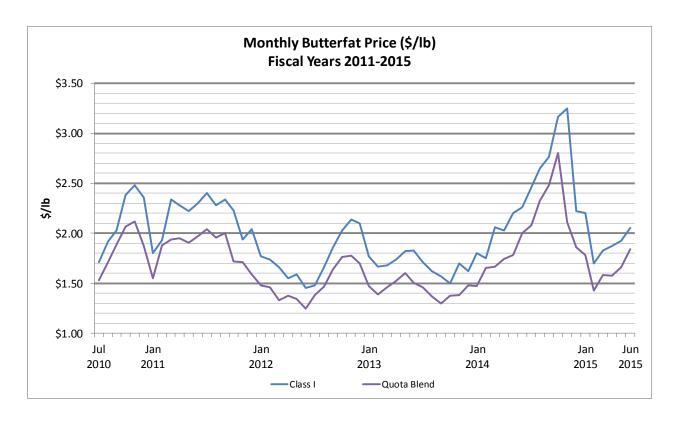


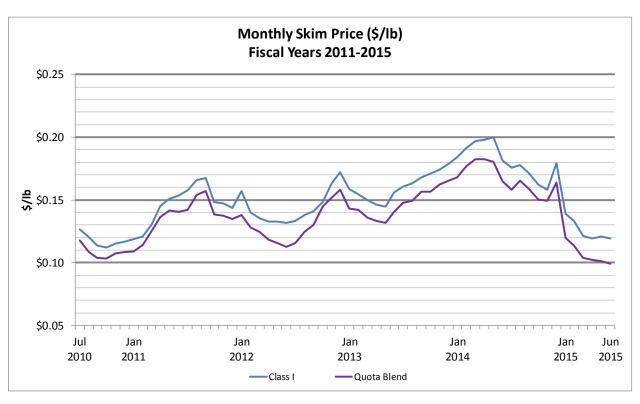


### PRICE CHARTS JULY 2010 - JUNE 2015

The following charts show Montana Class I prices and Montana Quota Blend producer prices for milk containing 3.5% butterfat. The charts show three cycles of price increases and declines in the time period. The spread between Montana Class I and Montana Quota Blend prices appears to narrow at times when price changes are more rapid. Prices in the first half of fiscal year 2015 were generally higher than at any time in the time period, and prices in the last half of the fiscal year were among the lowest of the time period.



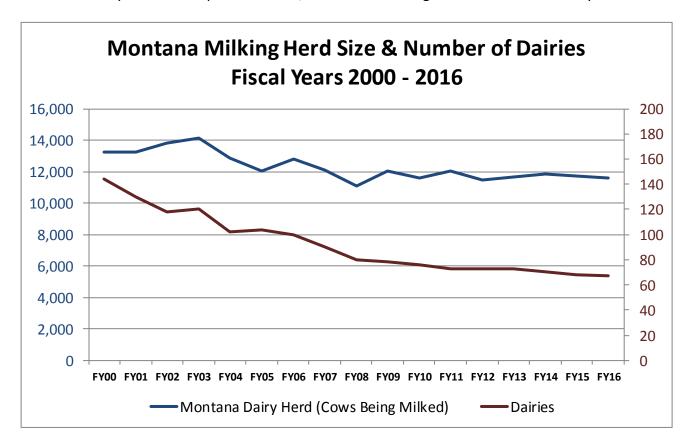


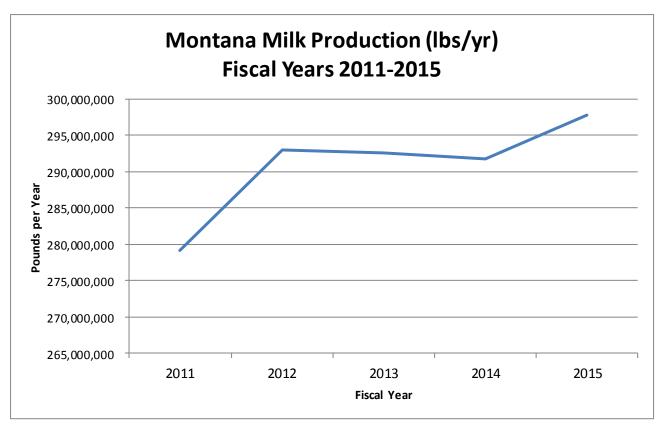


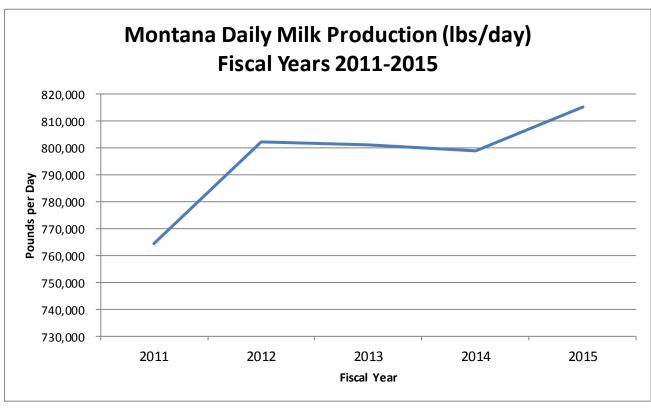
### MONTANA MILK PRODUCTION

Dairies that participate in Montana's pool marketing system account for most of Montana's milk production. These dairies supply milk to Darigold's processing plant in Bozeman; Meadow Gold's processing plants in Great Falls and Billings; and Montana Correctional Enterprise's processing plant in Deer Lodge. Dairies that are licensed as producer-distributors account for the rest of Montana milk production. The map on page 22 shows the counties in which dairies are licensed to operate in fiscal year 2016.

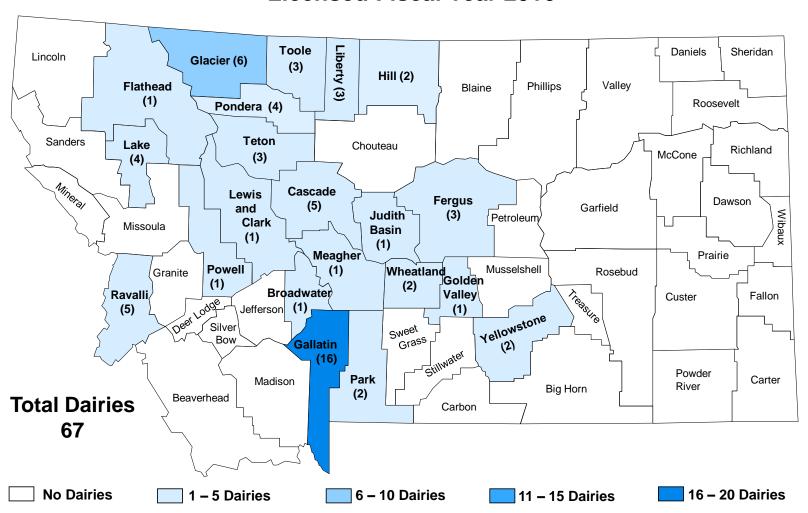
The following charts show the size of Montana's dairy herd and the number of dairies for fiscal year 2000 through fiscal year 2016 and total milk production (per year and per day) for fiscal year 2011 through fiscal year 2015. The size of Montana's milking herd is based on information provided by producers and producer-distributors in annual license applications. Since fiscal year 2000, the number of cows being milk has declined by 12%, while the number of dairies has declined by 53%. The average number of cows being milked per dairy increased from 92 cows per dairy in fiscal year 2000 to 173 cows per dairy in fiscal year 2015. Despite a smaller herd size, Montana milk production in fiscal year 2015 is slightly higher than in 2000. Milk production is increasing in recent years even though the reported herd size has remained relatively stable. Production may decline in fiscal year 2016 because five dairies closed between May 2015 and September 2015, with several selling cows to out-of-state buyers.







## Montana Dairies Licensed Fiscal Year 2016



### **MILK IMPORTS / EXPORTS**

In the discussion of Montana's milk imports and exports, the terms refer to trade between Montana and other states, not international trade.

### **MILK IMPORTS**

### **Bulk Milk**

A provision in the Milk Control Act (81-23-302(10), MCA) specifies that distributors with processing facilities in the state shall "whenever possible, purchase milk from Montana producers for the processing of products to be sold in this state if milk is available from Montana producers at the price set by the board." In fiscal year 2015, pool handlers imported 18 million pounds of bulk unpasteurized milk, an average of 1.5 million pounds per month. In comparison, Montana producers delivered over 292 million pounds of milk to pool handlers in fiscal year 2015, an average of over 24.3 million pounds per month.

The bulk milk imports are primarily attributed to Meadow Gold – Billings purchasing milk from Wyoming producers, processing the milk, and distributing it to the Wyoming market. Infrequently, pool handlers import bulk milk for other reasons, such as enabling a plant to be shut down during a holiday. Current levels of bulk milk imports are lower than packaged milk exports for any given month. As such, Montana is a net exporter of milk to Wyoming.

### Packaged Milk

Packaged milk and dairy products are imported by both out-of-state distributors and in-state distributors. Montana imports approximately 26.4 million pounds of Class I fluid products and 13.9 million pounds of Class II fluid products.

### **Estimated Montana Packaged Product Imports – Fiscal Year 2015**

Estimated Montana i dekaged i roddet imports - risedi i edi 2013		
Product Description	Imports (lbs)	
Class I Fluid Products	26,436,698	
Class II Fluid Products	13,863,646	
	Imports (lbs milk equivalent)	
Class II Uncultured Products (ice cream & frozen yogurt)	11,536,170	
Class II Cultured Products (cottage cheese, sour cream, yogurt)	34,041,315	
Class III Products (cream cheese, cheese, butter)	267,896,891	

### **MILK EXPORTS**

Montana exports include Class I fluid milk packaged in Montana's pool plants, bulk unpasteurized milk, and bulk cream collected by pool handlers. Montana's exports of bulk milk and packaged Class I fluid milk significantly exceed its bulk milk imports. Packaged Class I fluid milk exported to out-of-state markets is not included in Montana Class I utilization; rather it is classified as Montana Class III utilization, along with exports of bulk milk and bulk cream.

### Montana Milk Exports – Fiscal Year 2015

Product Description	Exports (lbs)	
Bulk Cream	11,368,937	
Bulk Milk	29,992,883	
Packaged Milk	103,349,429	
Total	144,711,249	

### MONTANA POOL MARKETING SYSTEM

### **EXPLANATION OF POOLING & QUOTA SYSTEM**

### Montana Pool System

Montana's pool marketing system allows producers to receive uniform milk prices (for milk of equivalent butterfat content) based on the overall utilization of pool milk received by all of Montana's pool handlers. Without the pool marketing system, an individual dairy's milk price would be completely dependent upon how the receiving plant utilized the milk. By having a pool marketing system, variation in blend prices (for milk of identical butterfat content) for producers delivering to different plants does not occur. Producers supplying an individual plant are not as exposed to the volatility of that plant's marketing "wins" and "losses".

### **Quota System**

Montana's quota system was established in an effort to discourage overproduction that would depress blend prices. Montana's quota system establishes a \$1.50/cwt differential in the price of milk produced "in quota" over the price of milk produced "in excess" of quota. Excess production accounted for 6.15% of production in fiscal year 2015. In fiscal year 2011, excess production accounted for 4.77% of production. In fiscal year 2016, it is anticipated that excess production will decrease as a percentage of total production because five dairies closed between May 2015 and September 2015, with several selling cows to out-of-state buyers. The dairies that purchased quota, but not cows, will likely reduce the portion of their production that is in excess of quota in fiscal year 2016.

Montana's quota system allows for additional quota to be allocated, but does not allow for outstanding quota to be reduced. An adjustment (increase) in quota happens when both of the following conditions occur: (1) less than 16.5% of quota milk is utilized in Class III and (2) quota milk utilized for Montana Class I and Class II products increases relative to two years prior. In calendar year 2014, approximately 42% of quota milk was utilized in Class III, and quota milk utilized for Montana Class I and Class II products decreased by 17.7 million pounds compared to 2012. Because of the steady decline in Montana Class I and Class II utilization and steady levels of production, the last time there was an adjustment (increase) in quota was 2001.

The provisions of Montana's administrative rules allow for quota to be provided to a "new eligible producer" for a portion of production. For a new eligible producer, the following sales to a pool handler are treated as if the milk was quota milk: 20% of sales to a pool handler in April – August and 35% of sales in September – March. If the new eligible producer purchases quota, the described assignment of quota is reduced by the amount of quota purchased.

Producers are allowed to transfer quota. Per ARM 32.24.502(8), producers may lose quota if delivery of milk to pool handlers is discontinued for over 90 consecutive days. If such producer's quota is not transferred within the 90-day period, it is forfeited. Forfeited quota is

allocated to all remaining eligible producers on the following May  $\mathbf{1}^{\text{st}}$  if the total unassigned quota is 500 lbs/day or more.

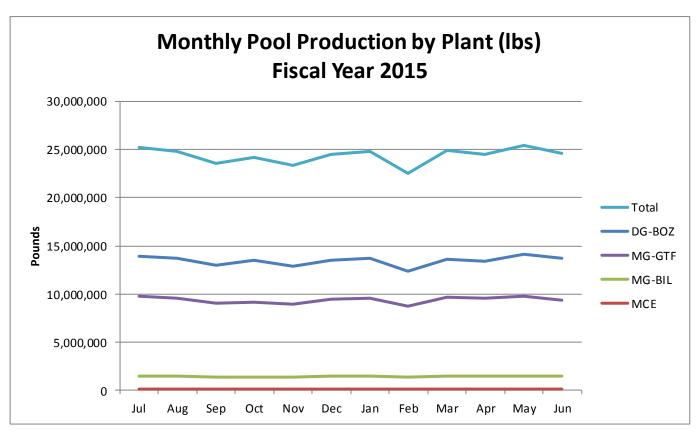
### **POOL PRODUCTION**

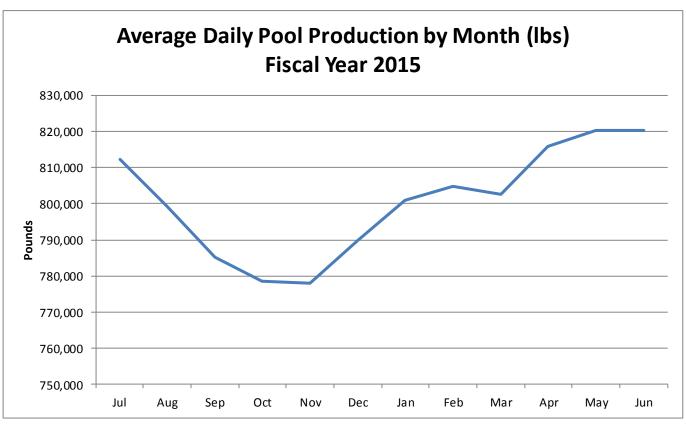
In fiscal year 2015, 66 dairies produced and delivered milk to four pool handlers. The following table shows the Montana milk pool's annual production, average butterfat content, weighted average pool price, and gross receipts for fiscal year 2012 through fiscal year 2015. Pool production in fiscal year 2015 was higher than the previous four years, and the butterfat content was near the average for the time period. In fiscal year 2015 (relative to fiscal year 2014), production increased by 2.0%; the weighted average price decreased by 8.5%; and annual gross receipts decreased by 6.7%.

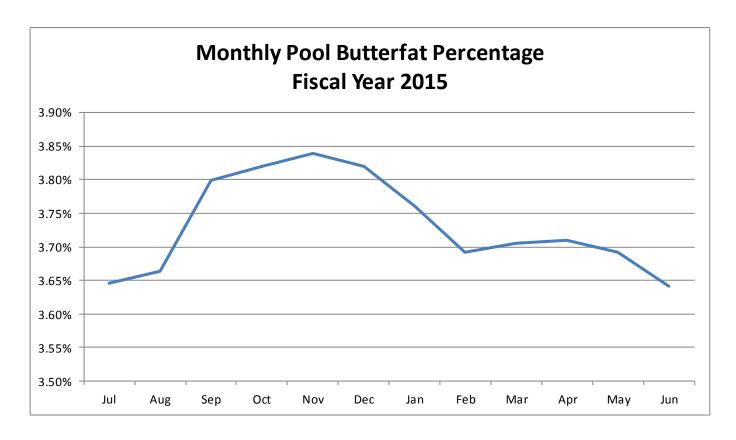
**Summarized Pool Information: Fiscal Year 2012 – 2015** 

Fiscal	Production	Butterfat	Weighted Average	Annual Gross
Year	(lbs)	(%)	Price (\$/cwt)	Receipts (\$)
2012	288,601,895	3.69%	\$18.71	\$53,989,689
2013	288,126,166	3.73%	\$19.01	\$54,782,758
2014	286,550,985	3.78%	\$21.79	\$62,446,124
2015	292,232,179	3.73%	\$19.93	\$58,232,010

The following charts provide information from fiscal year 2015 about pool production on a monthly basis to show seasonal aspects of production. The weight of monthly production is impacted by the number of days of the month and by dairy cow productivity. The first chart shows milk received from pool producers at each of Montana's pool handlers. Dairy cows experience what is referred to as the "spring flush" and produce more milk in the spring and early summer months as the second chart shows. Inverse to daily production, butterfat content is highest in the fall months.





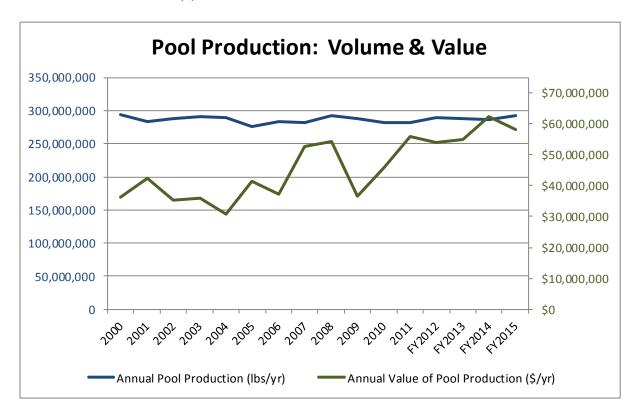


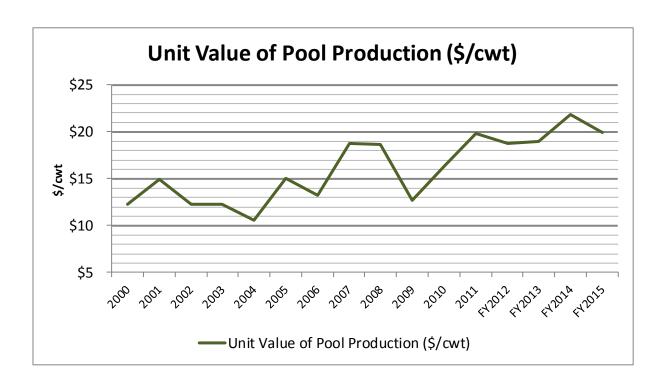
### THE PRICE/COST OF POOL MILK

Depending on the point of view, Montana's pool marketing system establishes how pool dairies are compensated for milk, or it establishes the cost of milk purchased by pool handlers for processing. The Milk Control Bureau announces minimum prices prior to the month of production. Pool handlers report milk receipts and utilization information by the 8<sup>th</sup> day following the month of production; after which, the Milk Control Bureau uses the information to calculate quota and excess prices and calculate amounts to be paid to pool producers.

The following charts provide perspective on volume of pool production, annual value pool milk sold to pool handlers, and annual weighted average unit price paid for pool production from 2000 through fiscal year 2015. Overall, production was relatively stable during the time period. The value of production has increased and directly reflects milk prices. Milk prices have followed the path of other commodities (such as feedstuffs) during the time period, increasing dramatically in 2007 and plunging in 2009 before recovering to price levels similar to the 2007 – 2008 time period. The 8.5% decline of the weighted average price of pool milk in fiscal year 2015 relative to fiscal year 2014 does not reflect the degree of market volatility experienced. After months of near-record high prices (with quota prices mostly over \$22/cwt through December 2014), a decline of roughly 30% occurred, primarily in a four-month period (with quota prices in the \$15/cwt - \$16/cwt range from February through June 2015). The decline in milk prices lagged behind declines of most other agricultural commodities. The Milk Control Bureau estimates that the weighted average pool price for fiscal year 2016 may be in the range

of \$15/cwt - \$16/cwt, based on announced prices in the first quarter of fiscal year 2016 and market outlooks in industry publications.





The following table identifies the key factors that determine the value of Montana pool milk. The production and utilization factors result in a poolwide utilization value calculated for butterfat and skim produced by pool dairies. The surplus sale factors allow for adjustments to the value of pool milk that reflect market and production dynamics. "Surplus" milk is defined by ARM 32.24.520(8) as milk received under contract by a pool handler that exceeds the pool handler's Montana Class I and Class II needs and excludes cream derived from processing. Surplus milk may be milk sold to another pool handler or sold to out-of-state markets in bulk or packaged form. To the extent that the value of surplus milk sold to out-of-state markets exceeds the Montana Class III value of that milk, the difference is added to the poolwide skim utilization value. To the extent that the value of surplus milk sold to out-of-state markets is less than the Montana Class III value of that milk, the difference is subtracted from the poolwide skim utilization value. Freight for the transportation of bulk surplus milk, whether to other pool handlers or to out-of-state processors, is subtracted from the poolwide skim utilization value.

### Key factors That Determine the Value of Montana Pool Milk

### **Production & Utilization Factors**

- poolwide production and butterfat content
- announced minimum prices for milk and butterfat for each class;
- percentage of butterfat and skim utilized in each class;

### Surplus Sale Factors

- volume of milk exported as packaged surplus milk and margin by with the value received exceeds the Montana Class III value of the milk;
- volume of milk exported as bulk surplus milk, the sale proceeds received relative to the Montana Class III value of the milk, and the freight costs of shipping the milk to out-ofstate processors; and
- the volume of sales of bulk milk between pool handlers and shipment freight rates

### Dairy Payroll: Quota / Excess Prices

The price an individual dairy is paid for milk sold for a given month is based on whether the milk produced within that dairy's quota right and the extent to which it is over quota. Quota milk production is priced \$1.50/cwt higher than excess production. Payment is based on each dairy's actual butterfat content.

The quota price is determined by calculating the statewide pool's value of skim milk and butterfat (utilization of skim and butterfat multiplied by minimum prices for the associated class of milk). The gain/loss of sales of surplus milk are added to pool skim value, and surplus milk sales' out-of-state and in-state hauling charges are subtracted from the pool's skim value. Further adjustments are made to the pool skim value that relate to adjustments for the producers' settlement fund: a negative adjustment of \$0.12/cwt multiplied by quota milk receipts and a positive adjustment equal to one-half of the prior month's producer settlement

fund balance. The adjusted pool-wide skim value is divided by skim receipts, and the pool-wide butterfat value is divided by butterfat receipts. Additional calculations are made to create a \$1.50/cwt differential between the quota milk price and excess milk price (at 3.5% butterfat).

The following table provides a schematic of the sequence for determining prices to be paid to individual dairies for milk produced in quota and milk produced in excess of quota. The quota price shown for milk in the Montana minimum price charts is for milk with 3.5% butterfat.

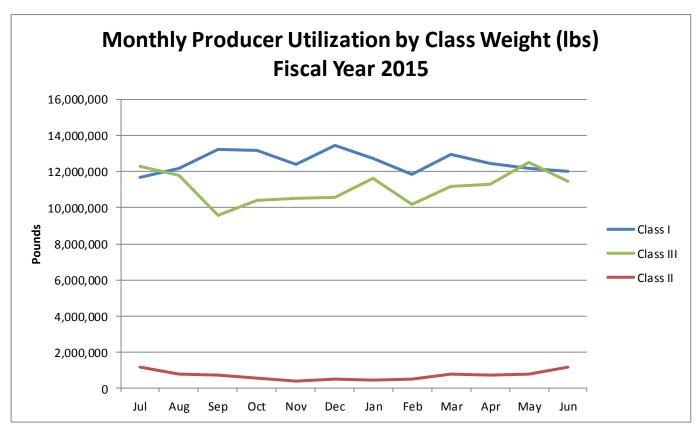
Skim Portion of Milk	Butterfat Portion of Milk		
Classification by Utilization for Skim & Butterfat: I, II, III			
Poolwide Skim Utilization Value	Poolwide Butterfat Utilization Value		
(classified announced prices multiplied by	(classified announced prices multiplied by		
weight of Class I, II, III utilization)	weight of Class I, II, III utilization)		
Adjustments to Skim Utilization Value: + / - Surplus Sale Gain (Loss) - Surplus Freight Costs + / - Settlement Fund Adjustments  = Adjusted Poolwide Skim Utilization Value			
Adjustments to create Quota / Excess Price Differential (\$1.50/cwt)			
Skim & Butterfat Quota / Excess Unit Prices (\$/lb)			
Blend Price to be Paid to an Individual Dairy Based Upon Actual Butterfat Content			

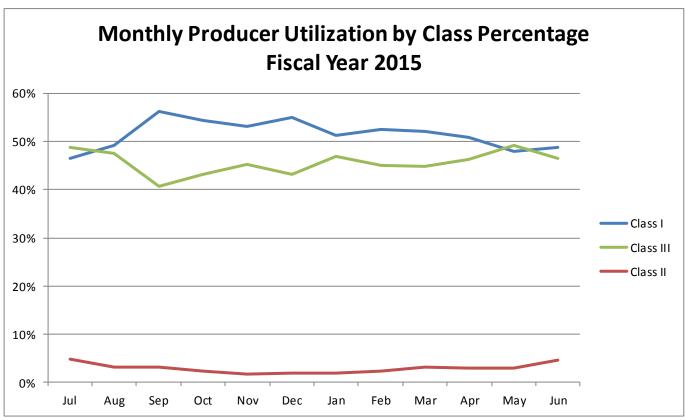
### **Utilization of Pool Receipts**

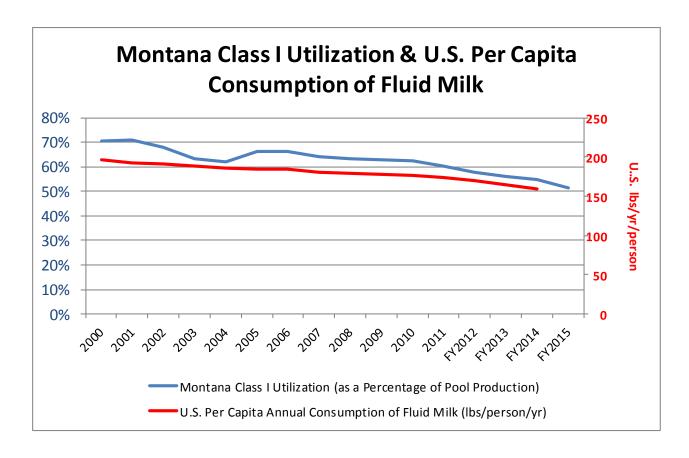
Pool handlers submit reports to the Milk Control Bureau that are used to determine the utilization of pool milk received. These reports show the weight of milk and butterfat used to produce products in the various classes of milk utilization. Ending inventory of packaged milk is reported as a Class I utilization, and ending inventory of bulk milk is reported as a Class III utilization. Milk dumped for reasons that are uncommon and infrequent are classified as Class III utilization. Shrinkage, which is the difference between milk receipts and milk accounted for as being utilized for products, ending inventory, or justifiably dumped milk is classified as a Class III utilization; except any shrinkage in excess of two percent of receipts is classified as Class I utilization. The purpose of classifying shrinkage exceeding the two percent threshold is to encourage pool handlers to be efficient in processing milk and to discourage the potential moral hazard of deliberate dumping milk to lower blend prices. The classification of surplus milk sold in bulk to other pool handlers is based on the receiving pool handler's utilization of the milk.

Several trends can be observed about Montana dairy receipts and plant utilization. Class I milk sales are highest (as a percentage of production) during the months schools are in session. The closing of schools in late May or early June corresponds with peak production in the spring and

early summer months resulting in a significant seasonal increase of bulk milk exports (classified as Class III milk). Class II utilization peaks in the summer months and is driven by sales of ice cream and ice cream mix products. The following two charts show monthly poolwide utilization of milk in terms of pounds per month and percentage of production. Viewing utilization by percentage of production eliminates variation that is based on the number of days in a month. The third chart shows the percentage of Montana pool milk utilized as Montana Class I milk and the per capita consumption of fluid milk in the United States since 2000. The USDA Economic Research Service was the source of per capita consumption information (http://www.ers.usda.gov/data-products/dairy-data.aspx, accessed September 2, 2015). During this time period, pool production was relatively stable, and Montana's population increased from approximately 904,000 in 2000 to 1,024,000 in 2013 according to the U.S. Census Bureau. The trend for the percentage of pool milk utilized as Montana Class I milk is one of steady and significant decline, which corresponds to the trend of declining per capita consumption of fluid milk in the United States. Montana Class I utilization has declined from accounting for 70.4% of pool production in 2000 to 51.4% in fiscal year 2015. Annual U.S. per capita consumption of fluid milk has declined from 196 pounds in 2000 to 159 pounds in 2014. Other potential factors influencing the decline of the Montana Class I utilization percentage include increased availability and possibly market share of ultrapasteurized products (such as organic milk, lactose-free milk, and other specialty or branded products) that are imported into the state and changes in food distribution systems that have led to an increase in out-of-state distributors supplying Montana stores. Class II manufacturing in Montana accounts for a relatively small amount of utilization. Because Montana dairy processors do not utilize a large percentage of pool milk for production of Class II and Class III products, the increased Montana Class III utilization of pool milk is occurring through exports of "surplus" bulk and packaged milk (primarily Class I fluid milk).

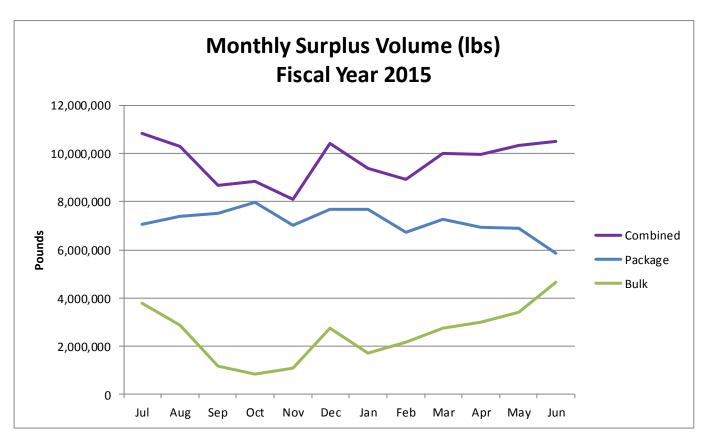


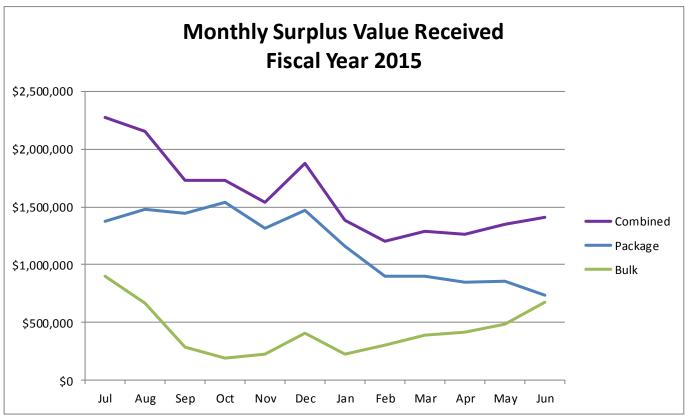


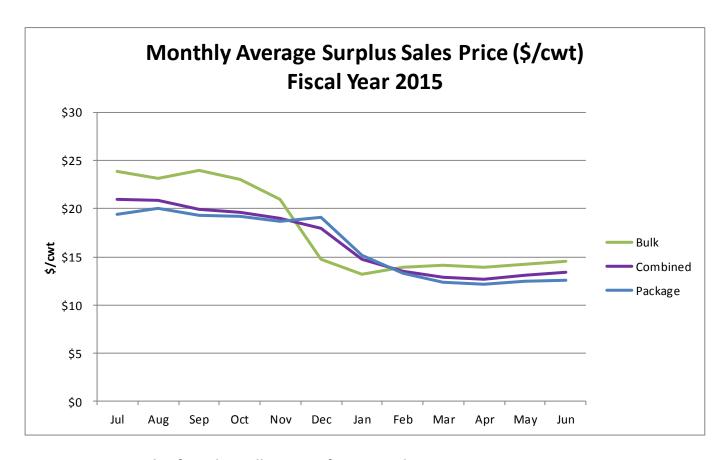


### Sales of Surplus Milk

The following three charts show the monthly volume and value received for sales of surplus milk by pool handlers and the unit price received for surplus milk sales. Bulk surplus sales peak in the summer months because less Montana milk is utilized for Class I milk sold to schools and because Montana production peaks in late spring to early summer. Pool handlers report a value received for sales of surplus packaged milk at prices that relate to the Federal Order Base Class I price and report actual proceeds for sales milk sold in bulk. It is not uncommon for the unit price for surplus milk sold in bulk to exceed the unit price for value received for packaged surplus milk because the butterfat content of packaged milk tends to be less than 2%, whereas the butterfat content of bulk milk tends to exceed 3.5%. Unit prices for surplus milk sold in bulk were less than surplus packaged milk in December 2014 and January 2015 when market prices for milk were in rapid decline. The Federal Order Base Class I skim price did not begin its rapid decline until January 2015.





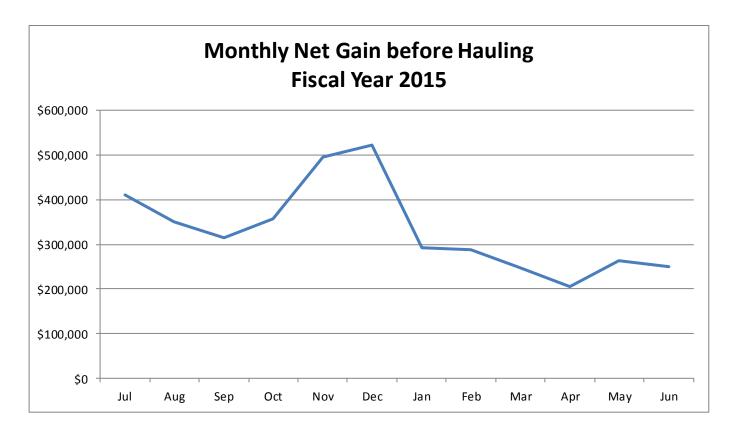


### Net Gain on Sale of Surplus Milk to Out-of-State Markets

Pool handlers report surplus sales of packaged milk at prices that relate to the Federal Order Base Class I price and no haul charges are deducted against the value received. Pool handlers pay into the pool the difference between the value received and the Montana Class III value of the milk. There is virtually always a gain on sale of packaged surplus milk relative to the Montana Class III value.

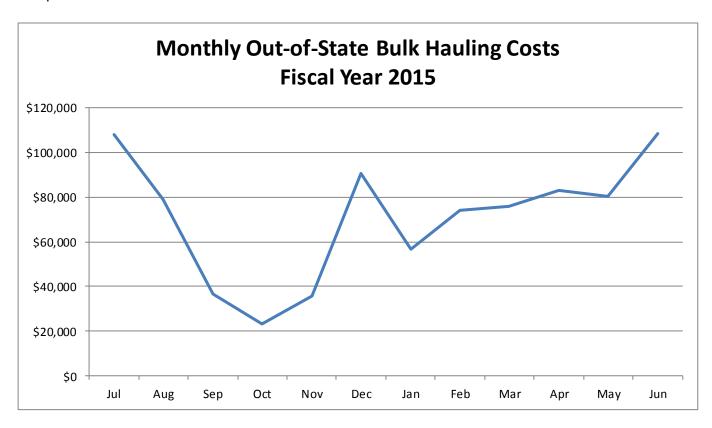
Pool handlers must report the sales price of bulk milk sold to out-of-state markets and pay into the pool the difference between the value received and the Montana Class III value of that milk after subtracting hauling charges. Circumstances may result in the pool paying pool handlers if the value received plus hauling charges exceeds the Montana Class III value of the milk. With seasonally large supplies in other regions as well, it is not uncommon for bulk surplus sales in summer months to "cost" the pool. The majority of bulk surplus milk sales to out-of-state markets in fiscal year 2015 reduced pool value of milk.

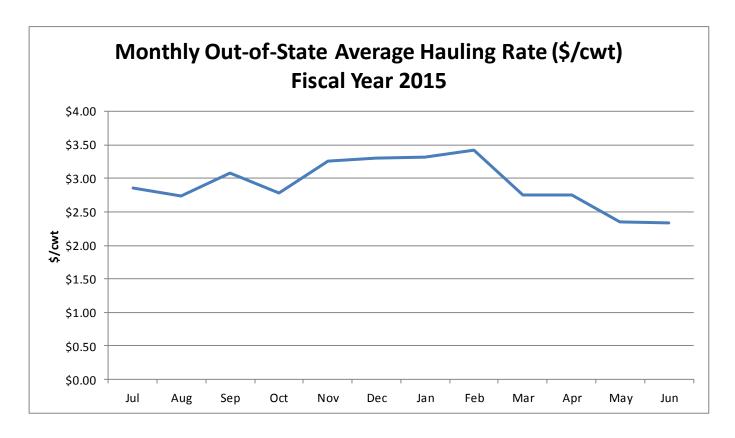
The fact that the volume of surplus packaged milk sales exceeded the sales of surplus bulk milk in every month helped assure that the total net gain before hauling was positive.



### Freight Charges for Sale of Surplus Milk Sold in Bulk to Out-of-State Markets

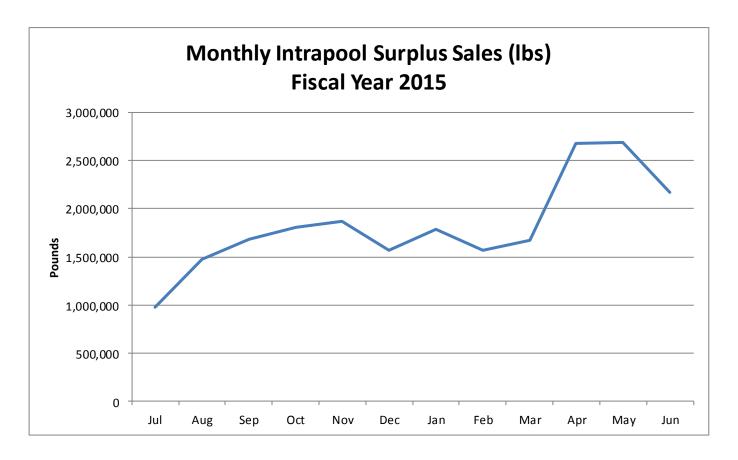
The following two charts show freight costs for surplus milk sold in bulk to out-of-state markets in fiscal year 2015. The freight costs were primarily driven by volume of surplus milk sold in bulk. Other factors affecting freight costs include variation in freight rates tied to distance of hauling and the extent to which the sales of bulk surplus milk were subject to favorable provisions of the Country Classic – Northwest Dairy Association merger agreement. Under the Country Classic – Northwest Dairy Association merger agreement, freight costs for shipments of surplus bulk milk attributed to cooperative members were not charged to the Montana pool. The Country Classic – Northwest Dairy Association merger agreement expired July 31, 2015; after that date, all freight charges for sales of surplus bulk milk will be charged to the Montana pool.

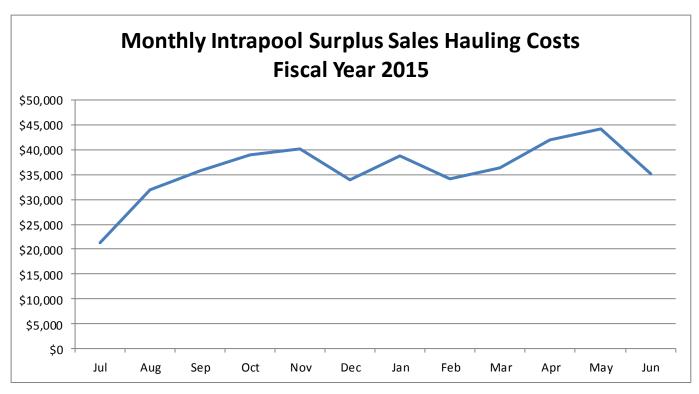


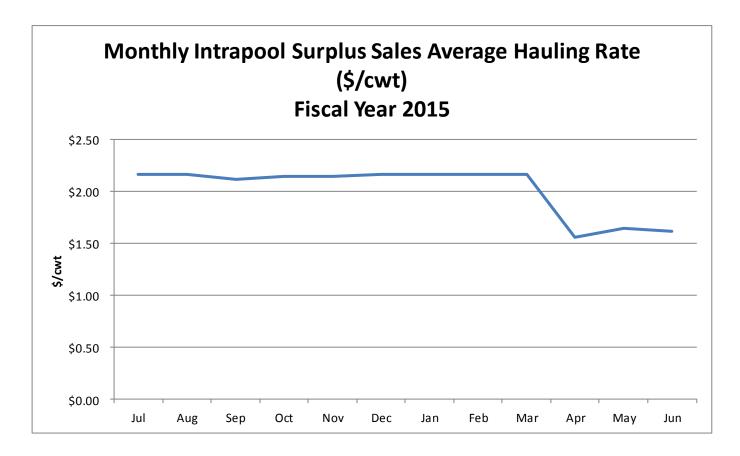


### Freight Charges for Sale of Surplus Milk Sold in Bulk to Pool Handlers

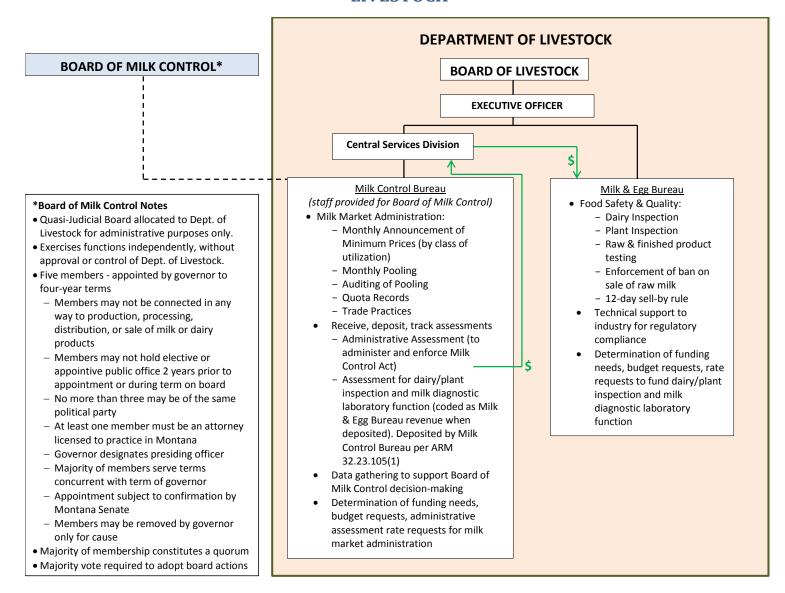
The freight charges for sales of surplus milk sold in bulk to other pool handlers is charged to the pool. The following three charts show the volume of such sales, the total freight charge, and average freight rates for each month in fiscal year 2015. The in-state surplus freight costs were primarily driven by the volume of sales from Meadow Gold – Great Falls to Meadow Gold – Billings. In the spring of 2015, Meadow Gold – Billings started purchasing bulk surplus milk from Darigold – Bozeman. The freight rate for the sales by Darigold – Bozeman was less than the freight rate for sales by Meadow Gold – Great Falls because of the shorter hauling distance. As a result, the average freight rate decreased in April 2015 through June 2015, and overall instate freight costs did not increase proportionately with the increase in volume of sales of surplus milk between pool handlers.







### APPENDIX A – BOARD OF MILK CONTROL & RELATIONSHIP WITH MONTANA DEPARTMENT OF LIVESTOCK



### APPENDIX B - REFERENCE PRICES USED FOR CALCULATION OF MINIMUM PRICES

